

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants : Hans WESTMIJZE et al.
Serial No. : 10/553,971
Filed : November 8, 2005
For : INCREASED POLYMERIZATION REACTOR OUTPUT BY
USING A SPECIFIC INITIATOR SYSTEM
Examiner : Huhn, Richard A.
Art Unit : 1796

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office via the Office electronic filing system on :

Date: December 7, 2010
By: /Julie Forero/

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

On October 4, 2010, Appellants submitted a Notice of Appeal from the last decision of the Examiner contained in the Final Office Action, dated July 2, 2010, in the above-identified application. The Notice of Appeal is believed to have been received by the United States Patent and Trademark Office on October 4, 2010. Accordingly, the filing of this Appeal Brief on December 6, 2010 is considered timely (December 4, 2010 falls on a Saturday).

In accordance with 37 C.F.R. §41.37, this Appeal Brief is submitted in support of the appeal of the final rejections of claims 1-12. For the reasons set forth below, the final rejections of claims 1-12 should be reversed.

1. REAL PARTY IN INTEREST

The real party in interest in this appeal is AKZO NOBEL N.V., the Assignee of the entire right, title, and interest in and to the present invention.

2. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences, or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the Assignee, AKZO NOBEL N.V., “which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.”

3. STATUS OF CLAIMS

All of the pending claims 1-12 stand rejected, which rejections are appealed herein.

Claim 4 stands rejected under 35 U.S.C. §112, second paragraph for failing to particularly point out and distinctly claim the subject matter which is regarded as the invention.

Claims 1-8, 11, and 12 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Amano (JP 1995-082304).

Claim 9 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Amano in view of Hoshida et al. (US 6,274,690).

Claims 1-8 and 10-12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Amano in view of Van Swieten et al. (US 6,384,155).

Claim 9 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Amano in view of Van Swieten et al. and Hoshida et al.

4. STATUS OF THE AMENDMENTS

No amendment to the claims was submitted after final rejection as no “Response to Final Office Action” under 37 C.F.R. § 1.116 in the present application that was submitted to the Patent Office. As such, the claims, as included in the annexed “Claims Index,” reflect the rejected claims as currently pending, the rejections for which are hereby appealed.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention as in independent claim 1, from which claims 2-12 depend, relates to a process to polymerize one or more monomers, in particular to produce polymerized vinyl chloride. *Specification* at page 1, lines 4-6. Specifically, the invention relates to a process to polymerize one or more monomers in a reactor with a certain cooling capacity, wherein the cooling capacity is limiting the space-time yield of the reactor. *Id.* at page 1, lines 5-6. In the process of the invention the heat of polymerization can be kept at the

maximum cooling capacity, allowing optimum reactor space-time yield, very efficient peroxide usage, and very low residual peroxide levels in the resin after polymerization. *Id.* at page 2, lines 16-19. This is achieved in the current invention of a process wherein at most 90 percent by weight of the safely useable amount of a first initiator is used and a second initiator. *Id.* at page 2, line 30- page 3, line 2; and at page 4, lines 5-7. In the process of the invention the second initiator has a half-life from 0.0001 hour to 1.0 hour at the polymerization temperature and that is less temperature stable than said first initiator. *Id.* at page 3, lines 1-3. This second initiator is being dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized, in an amount such that at least 92% of the maximum cooling capacity is used during at least a period of time wherein at least 10 percent by weight of the monomer is polymerized. *Id.* at page 3, lines 3-10. In the process of the invention it is possible to significantly reduce or remove the run-away safety margins that were necessary in the conventional process and the process can actually run at such a rate that the heat of polymerization is very close to the cooling capacity without that such a run-away reaction is observed, and thus the process is very well controlled. *Id.* at page 3, lines 23-27.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

a. Whether claims 1-8, 11, and 12 are patentable under 35 U.S.C. §103(a) over Amano (JP 1995-082304).

b. Whether claim 9 is patentable under 35 U.S.C. §103(a) over Amano in view of Hoshida et al. (US 6,274,690).

c. Whether claims 1-8 and 10-12 are patentable under 35 U.S.C. §103(a) over Amano in view of Van Swieten et al. (US 6,384,155).

d. Whether claim 9 is patentable under 35 U.S.C. §103(a) over Amano in view of Van Swieten et al. and Hoshida et al.

7. ARGUMENT

A. Rejection of Claims 1-12 under 35 U.S.C. § 103(a)

Claims 1-8, 11, and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over JP 1995-082304 (“Amano”), based on the computer-generated English translation of Amano as referred to in the Office Action. Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Amano in view of U.S. Patent No. 6,274,690 (“Hoshida et al.”).

Claims 1-8 and 10-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Amano in view of U.S. Patent No. 6,384,155 (“Van Swieten et al.”). Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Amano in view of Van Swieten et al and Hoshida et al. Appellants respectfully submit that Amano either alone or in combination with Van Swieten et al, as maintained in the Final Office Action, fails to teach or suggest the claimed invention.

The Final Office Action maintains that Amano discloses a process to polymerize one or more monomers using an amount of initiator that does not cause an uncontrolled reaction and a second initiator having a half-life of 0.1 hours at the reaction temperature, wherein the second initiator is dosed at least partially in between the start of the polymerization until 60% (preferably 50%) of the monomer has been polymerized. According to the Office Amano further gives an example in which the second initiator is dosed when 15% of the monomer has been polymerized. According to the Office the reference fails to specifically name that at most 90% of a safely useable amount of a first initiator is used and that the second initiator is dosed at least partially in between the start of the polymerization until 10% of the monomer has been polymerized. In response to appellants remarks that Amano teaches the addition of 100% of the safely useable amount of the first initiator, the Office doesn’t find support for this statement but asserts that even if correct, the disclosure by Amano of the addition of a certain amount of initiator would not detract from a motivation to optimize the amount of the initiator.

The Final Office Action also maintains that Amano fails to specifically name a process in which at least 92% of the maximum cooling capacity is used during a period of time in which at least 10 wt% of the monomer is polymerized. However, the Office asserts that Amano teaches that a reflux condenser is used to prevent the reaction from exceeding a desired temperature and thus an operator may adjust the coolant flow through the condenser in order to achieve a desired cooling capacity for the reactor. Further, according to the Office the reference recognizes that the condenser is in operation prior to dosing the very reactive initiator in order to prevent the reaction from exceeding a desired temperature. According to the Office the second (very reactive initiator is used in order to shorten the reaction time.

With respect to the requirement in the claimed invention to add the second initiator at least partially between the start of the polymerization until 10% of the monomer has been polymerized, the Office states that Amano refers to a monomer conversion of up to 50% and further gives an example in which the second initiator is added at 15% monomer conversion. According to the Office in view of this the skilled artisan would have expected the same properties from the resulting reaction. According to the Office the skilled artisan would

expect that adding an initiator at a different point in the reaction would lead to predictable changes in the polymer's properties, such as molecular weight, molecular weight distribution, and processability characteristics. Moreover the Office states that the point of commencement and the duration of the initiator feed are result effective variables because changing them will clearly affect the type of product obtained, including the polymer's physical properties. According to the Office discovery of an optimal value of a result effective variable in a known process is ordinarily within the skill of the art.

Further, the Office maintains that Amano teaches that the reflux condenser described therein should be used in order to ensure sufficient cooling capacity and thereby avoid defects such as fish eyes in the polymer. According to the Office while Amano teaches the need to control the addition of initiator based upon the cooling capacity, it does not appear to limit the process to addition of the more reactive initiator only after conversion has reached 15% as argued, rather it appears to teach, according to the Office, to teach a requirement that the more reactive initiator not be added until the reflux condenser is in use, without any specific regard to the monomer conversion at the point the reflux condenser is started. The Office asserts that while the addition of the more reactive initiator may produce an unsafe reaction if it is added without the use of a reflux condenser, Amano does not teach that an unsafe situation would occur merely from the addition of the more reactive initiator prior to 15% conversion.

With respect to Van Swieten et al. the Final Office Action maintains that the reference teaches that using a reactive peroxide in the early stage of polymerization allows for fast heating up, and further teaches that dosing the peroxide allows for control of the polymerization rate. According to the Office the skilled artisan would recognize that adding the second initiator of Amano earlier in the process would allow for faster heating up, thereby shortening the reaction time and increasing throughput of the reactor. Further the Office asserts that Van Swieten et al teaches that the process of Amano may lead to an undesirable amount of residual peroxide in the polymer and thus the skilled artisan would be motivated to optimize the relative proportion of the first (more stable) initiator and the second (less stable) initiator in the process of Amano, including using less of the first and more of the second initiator, so as to minimize the amount of residual peroxide in the polymer. The Office maintains the rejections over Amano and Van Swieten et al for the above reasons.

With respect to the rejection of claim 9, the Final Office Action maintains that in view of Hoshida, disclosing polymerizing vinyl chloride monomer with reactors of at least 40 m³, it would have been obvious to the skilled artisan to have scaled up the process of Amano or Amano in view of Van Swieten et al. Therefore, the Office asserts that it would have been

obvious to the skilled artisan to modify the process in Amano to arrive at the currently claimed invention.

Appellants respectfully submit that the claims as presented herein are not obvious over Amano or Amano in view of Van Swieten et al for at least the reasons that follow and that the rejections in the Final Office Action are therefore improper.

In rejecting claims under 35 U.S.C. § 103, at least three criteria must be satisfied, as set forth in M.P.E.P. § 2143. First, there must be a reason to combine and/or modify the teachings of the cited prior art references. *KSR International Co. v. Teleflex Inc.*, 550 U.S. ____ (2007), 2007 WL 1237837 at 12; *see also In re Fine*, 37 F.2d at 1074; *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Second, there must be a reasonable expectation of success without resort to hindsight. *In re Merck & Co.*, 800 F.2d 1091, 1097, 231 U.S.P.Q. 375 (Fed. Cir 1986); *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988). Third, the prior art references, when combined, must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974).

In a recent decision, the United States Supreme Court reiterated the standard for a holding of obviousness, as set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 86 S.Ct. 684. The Court held

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *KSR International Co. v. Teleflex Inc.*, 550 U.S. ____ (2007), 2007 WL 1237837 at 6 (citing *Graham*, 383, U.S. 17-18, 86 S.Ct. 684).

The court further stated “*Graham* set forth a broad inquiry and invited courts, where appropriate, to look at any secondary considerations that would prove instructive.” *Id.* at 12. However, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* To be unobvious, an “improvement [must be] more than the predictable use of prior art elements according to their established functions. *Id.* at 13. The fact that the elements of an invention work together “in an unexpected and fruitful manner” supports the conclusion that an invention is not obvious to one of ordinary skill in the art. *Id.* at 12.

Thus, in order for a claim to be rejected for obviousness under 35 U.S.C. § 103(a), the prior art must teach or suggest each element of the claim. To establish obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference and that, when so modified, the prior art teaches or suggests all of the claim limitations. *See* M.P.E.P. §2143. Appellants respectfully submit that obviousness has not been established over Amano or Amano in view of Van Swieten et al. in regard to the currently pending claims. Although a skilled artisan might intend to improve Amano's process, but there is no teaching in Amano on how it can be improved, let alone that it teaches or makes obvious the manner of improvement according to the currently claimed invention. Further, contrary to the assertions in the Final Office Action the currently claimed invention is does not constitute a routine optimization of result effective variables. The skilled artisan would recognize that varying temperatures, cooling capacities and initiator concentrations (as one would do in routine optimization) is very dangerous because these initiators decompose quickly and exothermically and just playing around with these parameters involves high risks of a run-away reaction. Van Swieten et al fails to cure the deficiencies in Amano and teaches not to use the initiators as in Amano thereby teaching away from the cited reference. Even if combined the cited references fail to teach or suggest the claimed invention.

The currently claimed invention is directed to a process to polymerize one or more monomers wherein at most 90 percent by weight of the safely useable amount of a first initiator is used and a second initiator, having a half-life from 0.0001 hour to 1.0 hour at the polymerization temperature and that is less temperature stable than said first initiator, is being dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized, in an amount such that at least 92% of the maximum cooling capacity is used during at least a period of time wherein at least 10 percent by weight of the monomer is polymerized.

Appellants submit that Amano does not disclose nor suggest the presently claimed invention considering that the cited reference fails to teach or suggest a second initiator "dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized, which deficiency is not cured by the secondary references cited by the Examiner. It appears that the Office has applied impermissible hindsight analysis to piece together applicants' invention. *See, In re Fitch*, 972 F.2d 1260 (Fed. Cir. 1992) (" [I]t is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so as that the claimed invention is rendered obvious

..... This court has previously stated that “[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.”); quoting from *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). See also *In re Zurko*, 111 F.3d 887 (Fed. Cir. 1997), *reh’g in banc granted*, 116 F.3d 874 (Fed. Cir. 1997), *rev’d*, 142 F.3d 1447 (Fed. Cir. 1998), *rev’d sub nom. Dickinson v. Zurko*, 527 U.S. 150 (1999), *on remand*, 258 F.3d 1379 (Fed. Cir. 2001) (“[T]o say that the missing step comes from the nature of the problem to be solved begs the question because the Board has failed to show that this problem had been previously indentified anywhere in the prior art.”). Therefore, the rejections raised under 35 U.S.C. § 103(a) over Amano, or Amano in view of Hoshida et al, or Amano in view of Van Swieten et al, or a combination thereof, are apparently based on improper hindsight. Further, in determining obviousness, “the inquiry is not whether each element existed in the prior art, but whether the prior art made obvious the invention as a whole for which patentability is claimed.” *Hartness International Inc., v. Simplimatic Engineering Co.*, 819 F.2d 1100 (Fed. Cir. 1987), see also *Custom Accessories, Inc., v. Jeffrey-Allan Industries Inc.*, 807 F.2d 955 (Fed. Cir. 1986) (“[c]asting an invention as a combination of old elements leads improperly to an analysis of the claimed invention by parts, not by the whole.”). For this reason appellants submit that the claimed invention is not taught or suggested by the cited references.

Appellants submit that Amano starts to add the second initiator only after the start of the heat dissipation by the reflux condenser (par. 0011), which is after reaching a monomer conversion of 15% or more (par. 0014). Therefore, the cited reference starts with said addition of a second initiator after having reached 15% conversion, while the claimed invention requires such addition within the first 10% conversion. The reasoning in Amano to require addition of the second initiator only after 15% conversion is given in par. 0011:

“if the highly active oil soluble polymerization initiator is added before the start of the heat dissipation by the reflux condenser, the polymerization reaction heat increases to exceed the limit of heat dissipation capability of the jacket, causing such disadvantages that it becomes difficult to keep the temperature in the polymerization reactor at a predetermined temperature, and that fish-eyes increase in the obtained polymer”.

This same issue of keeping the temperature at a predetermined level despite the reaction heat evolved, also forms the basis of the presently claimed invention. However, contrary to the claimed invention Amano chooses to add 100% of the safely useable amount of the first initiator (par. 0004), resulting in the inability to add any second initiator before heat dissipation by the reflux condenser (i.e. after 15% conversion). The present invention, on the

other hand, chooses to add less first initiator (not more than 90% of the safely useable amount) thereby leaving room for the addition of the second initiator at an earlier stage, i.e. within the first 10% of conversion.

As an additional advantage over the process of Amano, the process of the currently claimed invention has an improved distribution of the first initiator over the monomer, resulting in polymer particles with less defects such as fish-eyes (present application, page 2, lines 19-24). Considering that Amano does not teach or suggest to use less than 100% of the safely useable amount of first initiator, nor to the dosing of the second initiator within the first 10% of conversion, the skilled artisan reading the Amano disclosure as a whole would not be provided with any guidance to arrive at the claimed invention of a process requiring at most 90 percent by weight of the safely useable amount of a first initiator and a second initiator, having a half-life from 0.0001 hour to 1.0 hour at the polymerization temperature and that is less temperature stable than said first initiator, being dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized. Moreover, Amano clearly teaches against addition of the second initiator before 15% conversion.

Furthermore, Van Swieten clearly teaches not to use Amano's first initiator at all. This is evident where Van Swieten et al refers to Amano and states that the use of a more stable peroxide at the beginning of the polymerization results in an unacceptably high residue of peroxide in the final polymer. This is confirmed by Van Swieten's Comparative Example F, which also resulted in a high amount of peroxide residue. Van Swieten et al thus teaches against the process as in Amano. Therefore, the skilled artisan reading the entire disclosure of Van Swieten et al would not be motivated to combine the teachings of Van Swieten et al with Amano to arrive at the currently claimed invention. Thus one cannot conclude that "the skilled person of ordinary skill would recognize that adding the second initiator of Amano earlier in the process would allow faster heating up, thereby shortening the reaction time and increasing the throughput of the reactor" because the skilled artisan would realize at the same time that this would lead to an unsafe situation, as Amano clearly teaches:

- Par. 0003: Increasing the amount of initiator increases the caloric value, requiring increased heat dissipation capacity. If heat is dissipated from the reflux condenser within the first 15% conversion, coarse particles or even blocks may be formed. As a result, the reflux condenser cannot be used at this stage.
- Par. 0011: "If the highly active oil soluble polymerization initiator is added before start of the heat dissipation by the reflux condenser, the polymerization reaction heat increases

to the exceed the limit of heat dissipation capability of the jacket, causing such disadvantages that it becomes difficult to keep the temperature in the polymerization reactor at a predetermined temperature, and that fish eyes increase in the obtained polymer".

In other words, faster heating up or the addition of the second initiator within the first 15% conversion is simply not allowed in Amano's process.

The skilled artisan, reading Amano or Amano in view of Van Swieten et al and desiring to increase the initiator efficiency (that is: a process which requires less initiator) and use the maximum cooling capacity, would have no guidance from the cited reference(s) on how to achieve this, let alone that such a skilled artisan would be inclined to achieve this by the combination of using at most 90 wt% of the safely usable amount of a first initiator, to dose the second initiator within the first 10% conversion and in an amount such that at least 92% of the maximum cooling capacity is used in this 10% conversion. Contrary to the assertions in the Final Office Action, this is not a matter of simply routine experimentation of a result effective variable. Therefore, appellants respectfully submit that the currently claimed invention is not obvious in view of Amano or Amano in view of Van Swieten et al, and that the rejections of the claims based on these references are improper.

In addition, Hoshida et al. does not cure the shortcomings of Amano or Amano in view of Van Swieten et al. That is, Hoshida et al. fails to teach or suggest a second initiator "dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized." Thus the rejections of the claims based on this additional secondary reference are also improper.

B. Conclusion

Appellants respectfully submit that a case of obviousness of claims 1-8, 11, and 12 cannot be made over Amano, nor of claims 1-8 and 10-12 over Amano in view of Van Swieten et al, nor of claim 9 over Amano in view of Hoshida et al. or Amano in view of Van Swieten et al further in view of Hoshida et al., as cited in the Final Office Action. Amano fails to teach or suggest to the skilled artisan the presently claimed process which includes a second initiator "dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized." In fact, when considering the teachings of Amano the skilled artisan would recognize that Amano clearly teaches against addition of the second initiator before 15% conversion. Further, Van Swieten et al clearly teaches not to use Amano's first initiator at all, where the cited reference refers to Amano and states that the use of a more stable peroxide at the beginning of the polymerization results in an unacceptably

high residue of peroxide in the final polymer. Accordingly, there is no motivation to combine the teachings of the cited references to arrive at the currently claimed invention. Appellants submit that in determining obviousness, “the inquiry is not whether each element existed in the prior art, but whether the prior art made obvious the invention as a whole for which patentability is claimed.” *Hartness International Inc., v. Simplimatic Engineering Co.*, 819 F.2d 1100 (Fed. Cir. 1987), see also *Custom Accessories, Inc., v. Jeffrey-Allan Industries Inc.*, 807 F.2d 955 (Fed. Cir. 1986). For this reason appellants submit that the claimed invention is not taught or suggested by the cited references. Moreover, even if combined the cited references fail to teach or suggest the currently claimed invention which requires that a second initiator is “dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized.”

Therefore, Appellants respectfully submit that the Final Office Action has not set forth a case for obviousness. Accordingly, the rejections of claims 1-8, 11, and 12 under 35 U.S.C. §103(a) as being unpatentable over Amano (JP 1995-082304), as well as claims 1-8 and 10-12 under 35 U.S.C. §103(a) as being unpatentable over Amano in view of Van Swieten et al (U.S. Patent No. 6,384,155), as well as claim 9 under 35 U.S.C. §103(a) as being unpatentable over Amano in view of Hoshida et al (U.S. Patent No. 6,274,690) or over Amano in view of Van Swieten et al and Hoshida et al are improper, and should be reversed.

8. Claims Appendix

A “Claims Appendix” is attached hereto, and appears on the two (2) pages numbered “Claims Appendix 1-2.”

9. Evidence Appendix

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130 or 1.131. Evidence has been submitted pursuant 37 C.F.R. § 1.132; The Declaration of Andreas Petrus van Swieten pursuant to 37 C.F.R. § 1.132, filed with the Supplemental Response dated August 19, 2009. An Evidence Appendix, containing the above-identified Declaration pursuant to 37 C.F.R. § 1.132 is attached, and is set forth on the one (1) page numbered “Evidence Appendix 1.”

10. Related Proceedings Appendix

As indicated above in Section 2, there are no other prior or pending appeals, interferences, or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the Assignee, AKZO NOBEL N.V., “which may

be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal." As such, there are no "decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]" to be submitted. A "Related Proceedings Appendix" is nevertheless attached hereto and appears on the one (1) page numbered "Related Proceedings Appendix 1."

11. Conclusion

For the reasons indicated above, Appellants respectfully submit that the art of record does not disclose, teach or suggest the subject matter as recited in the claims of the above-identified application. Accordingly, it is respectfully submitted that the subject matter as set forth in the claims of the present application is patentable.

In view of all of the foregoing, reversal of all of the rejections under 35 U.S.C. §103(a) set forth in the Final Office Action is therefore respectfully requested.

Respectfully submitted,

Date: December 7, 2010

By: /Willem F.C. de Weerd/
Willem F.C. de Weerd

Kenyon & Kenyon LLP
Attorney for Appellants
Reg. No. 51,613
(212) 908-6090

CLAIMS APPENDIX

1. A process to polymerize one or more monomers wherein at most 90 percent by weight of the safely useable amount of a first initiator is used and a second initiator, having a half-life from 0.0001 hour to 1.0 hour at the polymerization temperature and that is less temperature stable than said first initiator, is being dosed at least partially from the start of the polymerization until 10% of the monomer(s) has been polymerized, in an amount such that at least 92% of the maximum cooling capacity is used during at least a period of time wherein at least 10 percent by weight of the monomer is polymerized.
2. A process according to claim 1 wherein the monomers comprise vinyl chloride.
3. A process according to claim 2 wherein the process is a suspension polymerization process.
4. A process according to claim 1 wherein the second initiator is additionally added intermittently and/or continuously after the start of the pressure drop and/or during the pressure drop.
5. A process according to claim 1 wherein a protective colloid is added during the polymerization process.
6. A process according to claim 1 wherein said first initiator has a half-life of 0.1 hour to 10 hours at the polymerization temperature and the less temperature stable initiator has a half-life of 0.0001 hour to 1.0 hour at said temperature.
7. A process according to claim 1 wherein the amount of the second initiator that is used is at least 0.01% by weight, based on the weight of the monomer that is polymerized.
8. A process according to claim 1 wherein the total amount of first and second initiator is 0.01 to 1 %w/w, based on the weight of the monomer that is polymerized.
9. A process according to claim 4 wherein the polymerization reactor has a volume of 15 m³ or more.

10. A process according to claim 1 wherein said dosing of the first initiator is at a variable rate.
11. A process according to claim 3 wherein said suspension polymerization process is a batch suspension polymerization process showing a pressure drop of the vinyl chloride in the reactor.
12. A process according to claim 6 wherein a protective colloid is added during the polymerization process.

Evidence Appendix

1. Declaration under 37 C.F.R. §1.132 of Andreas Petrus van Swieten.

Related Proceedings Appendix

NONE